

CLAIMS:

1. An electrophoretic display device (101) comprising at least one pixel cell (102) and drive means (110) for driving said at least one pixel cell (102) between a first extreme state, a second extreme state and at least two intermediate states; said drive means (110) being operative to drive each pixel cell by means of a drive signal comprising a reset signal setting the pixel in a selected reset state, and an address signal setting the pixel in a target image state; said display device (101) further comprising means (110) for estimating a level of remnant voltage in each pixel; and said selected reset state being selected as one of said extreme states depending on the target image state and depending on the estimated level of remnant voltage, such that excessive remnant voltage levels are avoided while simultaneously limiting flicker occurring due to different optical appearance of the target image state and the selected reset state.
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2. An electrophoretic display device (101) according to claim 1, wherein said means (110) for estimating a level of remnant voltage comprises a counting means, operative to count the number of consecutive times the same extreme state is selected as reset state.
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3. An electrophoretic display device (101) according to claim 2, wherein the number of consecutive times the same extreme state is selected as reset state is limited to a pre-determined threshold number, and wherein a different extreme state is selected in case the threshold number is reached.
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4. An electrophoretic display device (101) according to claim 1, wherein the drive means (110) comprises a look-up table and is operative to determine a desired flicker minimizing reset state, to store information regarding preceding driving signals, and to select the reset signal from said look-up table based on said desired flicker minimizing reset state and on said preceding driving signals.
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5. An electrophoretic display device (101) according to claim 1, wherein said intermediate states includes a first intermediate state having an optical appearance that is

close to said first extreme state, and wherein said first extreme state is always selected as reset state when said first intermediate state is used as target image state, such that flicker is limited without considering the build up of remnant voltage when addressing said first intermediate state.

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6. A method of driving an electrophoretic display device, said display device comprising at least one pixel cell which is controllable between different image states including a first extreme state, a second extreme state, and at least two intermediate states; said method comprising the steps of:

10 receiving (601; 701) pixel image information regarding a target image state to be displayed by the pixel;

estimating (602; 703) a level of remnant voltage in the pixel cell,

resetting the pixel to a selected reset state by means of a reset signal,

switching said pixel from said selected reset state to said target image state,

15 wherein, said selected reset state is selected as one of said extreme states depending on the target image state and depending on the estimated level of remnant voltage, such that excessive remnant voltage levels are avoided while simultaneously limiting flicker occurring due to different optical appearance of the target image state and the reset state.

20 7. A method according to claim 6, wherein said step of estimating (602; 703) a level of remnant voltage takes a driving history of the display device into account.

8. A method according to claim 6, wherein said step of estimating (602) a level of remnant voltage includes the step of counting (602) the consecutive number of times the 25 same extreme state has been used as reset state.

9. A method according to claim 6, said method further comprising the step of determining (702) a desired flicker minimizing reset state, storing (704) information regarding preceding driving signals, and

30 selecting (703) said reset signal from a look-up table, based on based said desired flicker minimizing reset state and on said preceding driving signals.

10. A computer program implementing the method of claim 6.